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U.S. Army Staffs
Are They Broken?

A Monograph
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ABSTRACT

US ARMY STAFFS --ARE THEY BROKEN? by MAJ Clarence E. TAYLOR, USA 49 pages.

This monograph examines current US Army tactical level staffs. Even though the Army underwent a tremendous modernization program during the last decade, tactical level staffs remained virtually unchanged during that period. This monograph examines several recent conflicts to determine if staff doctrine is in need of change.

The monograph first examines the historical development of military staffs. Beginning with the Greek and Roman periods, military staffs grew in size and sophistication as military operations became more complex overtime. The development of US Army staffs was much slower than its European counterparts. The US Army did not see the need for staff development during the relative peace of the nineteenth century.

A review of current US Army staff doctrine provides a backdrop to the examination of staff operations during training exercises and three recent conflicts. War is the one true test of any military doctrine. In peacetime, the US Army validates its doctrine during training exercises. Three recent conflicts provide a unique opportunity to test staff doctrine.

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INTRODUCTION

> Still it is the task of military science in an age of peace to prevent...doctrines from being too badly wrong.[1]
>
> MICHAEL HOWARD

The 1980's saw a revival of the United States military. During Ronald Reagan's presidency, the military received renewed emphasis and underwent the largest peacetime buildup in the nation's history. Literally billions of dollars were spent to replace equipment that in some cases was older than the people that were operating it. Many new systems were added and others were improved to increase the capabilities of units. The United States Army underwent a significant transformation as a result of this buildup.

Organizational changes designed to take advantage of the enhanced capabilities of the new weapon systems were also made. A new TOE structure was introduced for field forces. Armored and mechanized infantry battalions were reorganized into four maneuver companies. They were smaller, yet more capable than their predecessors. The division's support command was also reorganized to better provide support to maneuver brigades. Additionally, division aviation was reorganized to give the commander more flexibility at the division level.

The sum of these organizational changes and the replacement of old and outdated equipment gave the heavy division a significantly greater capability. Simultaneously, doctrine was evolving to fully exploit these enhanced capabilities. AirLand Battle, a significant departure from the 1976 version of FM 100-5, was introduced in 1982. This new doctrine was more offensive in nature and was designed to fully exploit the capabilities of the new organizations and equipment.

Although equipment and the structural changes have been significant, little has been done to alter actual staff structure, despite the amount of technology which has been introduced. The Army fielded the Army Tactical Command and Control System (ATCCS) to improve the effectiveness of the staff. Computers and automation in general have given the commander and his staff the ability to process ever-increasing amounts of information at an incredible rate. The commander now has the ability to make quicker decisions on a battlefield that requires all participants to operate at a much faster tempo. This would seem to imply that the staff might be able to operate at a higher tempo and with fewer people. Yet the size of authorized staffs has remained relatively the same. On the other hand, units habitually augment their staffs with additional personnel and equipment prior to deploying on exercises. This is done for a variety of reasons: to augment the size of a specific staff section, to add a capability to a staff section, or to provide sufficient personnel for continuous operations.

Preliminary research indicates that commanders do this in training and continued this practice during DESERT SHIELD/ STORM. This would seem to suggest that either the current staff structure is inadequate or that staffs are improperly utilizing doctrine. As the Army downsizes by some 30% or more over the next four years, augmentation will become an unaffordable luxury. Variance with doctrine may likewise be unacceptable.

Significant change has occurred in the Army, yet staff structure has remained constant. Staff doctrine has remained relatively stable, yet the field has chosen on occasion to either alter or totally ignore staff doctrine.

The thesis of this paper, then, is that in some instances doctrine may be flawed, that staff structure has not kept pace with doctrine, or that units are not following doctrine even though it is sound.

To address these issues, this paper will present an examination of the historical development of staffs, its doctrinal underpinning and lessons learned from staff participation in training and war.

Historical Perspective

The precise origin of the military staff is unknown. The first mention of what would amount to a staff comes from Xenophon, who speaks of a Spartan king surrounded in a public tent by what would today be considered a staff. That staff consisted of a few trusted senior commanders and a small group of technical experts.[2] The armies of ancient Greece were small and commanders were able to manage their forces to include administration and logistics without assistance. Another characteristic of the armies of the time was that they were mobilized for short periods of time. This was in stark contrast to the armies of Alexander. His armies numbered in the tens of thousands and were mobilized on a permanent basis and probably required significant administrative and logistical support.[3] Surviving records mention that Alexander's secretary maintained a diary and helped pay the troops. He also registered soldiers that married Asiatic wives.

Records of the Roman armies are equally sketchy. There is some mention of a staff officer who had the responsibility of a modern day adjutant general - paymaster or quartermaster. The staff handled routine business that could be reduced to a few rules and thus would not require the presence of the decision maker, normally the monarch.[4]

Information about medieval armies is limited as well. Armies as a rule were small, temporary organizations. Literacy, a basic requirement for any staff officer, was almost nonexistent during the Middle Ages. The staff that did exist was normally limited to a prince's principal vassals which formed his council of war.[5] The staffs of Maurice of Nassau, Gustavus Adolphus, Wallenstein and Cromwell had similiar organizations suggesting that they had a common origin.[6] These staffs had a number of specialists who organized the wagons, payed the troops and obtained provisions for the armies. Once again staff officers were in the business of providing for and maintaining the army. Intelligence and operations remained the exclusive purview of the commander. There are early signs that selected troop commanders served as specialists on the commander's staff. These included artillery, engineer, and even cavalry commanders who advised the army commander on how to employ his unit on the battlefield.

One of the better known practitioners of maneuver warfare was the Prussian monarch, Frederick the Great. Although the Prussian's success on the battlefields of 18th century Europe is beyond the scope of this paper, Frederick was probably the last great captain to fight a war without the aid of a staff. Frederick, after fighting most of the War of Austrian Succession (1740 - 1748) without a quartermaster general, recommended in his Military Testament that the position be made permanent and that the quartermaster have six full-time assistants. This would mean that he would have seven staff officers for an army of 60,000.[7] Frederick said that a good quartermaster:

> ...cannot fail to make his fortune, since he will gain, by practice, all the skills needed by an army general.. the only exception is formed by the operational plans, but even these he will witness carried out, and will therefore be able to prepare them, provided he is possessed of good judgement.[8]

It was only at the end of his career that Frederick recognized the value of a good staff officer.

The military staff did not change for the remainder of the 18th century. Staffs were limited to performing tasks for which the commander had neither the time nor the inclination. Further development of the military staff would have to await the arrival of the next great captain. That captain was Napoleon Bonaparte of France.

Napoleon, at his zenith, commanded over 600,000 troops in the field. Previously, no nation had either the resources or manpower to field such an army. To have the Grand Armee act in concert was even more remarkable. It was Napoleon's challenge to synchronize the efforts of the Grand Armee. To accomplish this, he had to find a way to impose order over this army.

Components of Napoleon's command and control system were in place when he came to power. France had mobilized tens of thousands of men with its levee en masse to protect her from those who would reverse the gains of the revolution. The phenomenon of a large national army was found only in France at the time. Soldiers were fighting for their country and not just for a monarch. The concepts of divisions and corps and a general staff were all in place when Napoleon came to power. The division concept was devised by Bourcet during the Franco-Spanish invasion of Piedmont in 1744.[9] The Corps concept was approved by the Assemblee Nationale in 1794.[10] The general staff came into existence when the Committee of Public Safety authorized the topographical section of the Ministry of War to act as a general staff.[11]

Napoleon's system, by 1805, had reshaped the existing 150,000 man Army into a combined arms force of eight numbered corps each containing infantry, artillery and organic cavalry. Each corps was capable of fighting alone, for a maximum of one day, if necessary. Once a corps became engaged, the others were to "ride to the sound of the guns." The Army advanced on multiple routes so that it might arrive at the objective area faster. This also allowed the corps to have separate areas from which to draw their logistical support. Since all routes could theoretically support corps on separate marches,[12] the defender was presented with a difficult decision, particularly if he lacked sufficient forces to defeat the army in mass.

At the head of the Grand Armee, Napoleon, acting as the unified commander (chief of state and commander in chief), organized an Imperial Headquarters to support him in the field. It consisted of three parts. The *Maison*, the *Etat Major de 1 Armee*, and an administrative and economic staff.

The emperor's *Maison* was originally a part of the King's household. Numbering 800 men (serving as grooms, valets, pages, cooks etc.), it was a private institution composed entirely of civilians. A separate secretariat handled the emperor's correspondence. A portion of the secretariat performed an intelligence gathering function. Still another section, the topographical bureau, was responsible for maps and surveys.[13]

The second component of the Imperial Headquarters was the *Etat Major de 1 Armee* (the General Staff headed by Berthier). It consisted of four sections each headed by an adjutant general.

> <u>1st Adjutant</u> - responsible for the general staff archives, the collection of laws, unit discipline, inspections, troop movements and council of war, situation reports and prisoners of war
>
> <u>2d Adjutant</u> - responsible for the army diary, concerned with armaments, artillery, pioneers, camps, subsistence, hospitals, and the gendarmerie
>
> <u>3d Adjutant</u> - responsible for reconnaissance, plans, marches, communication, postal services, and guides
>
> <u>4th Adjutant</u> - responsible for the establishment of the general headquarters, its police units, cantonments and caserns

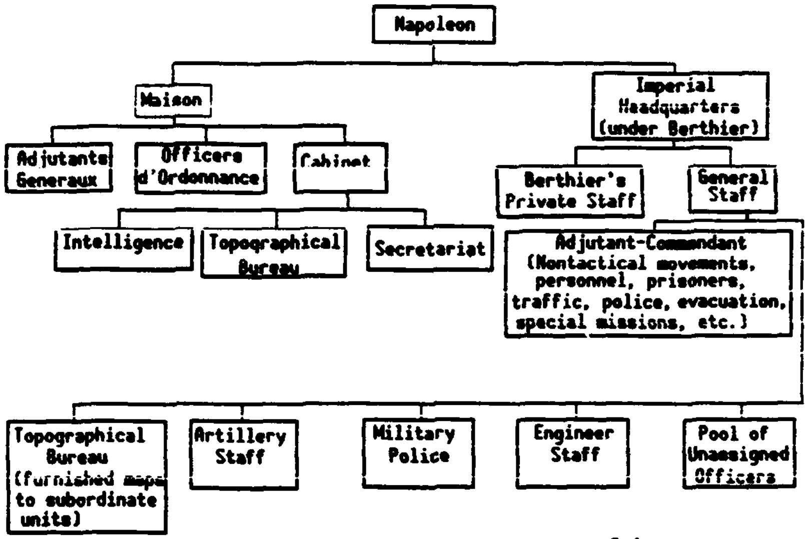

Figure 1. Imperial Headquarters, 1813.[14]

The final element in Napoleon's Imperial Headquarters was Daru's administrative and economic staff. It was responsible for administrating the vast zone of communications.[15] At its peak (1813), it was responsible for half the continent of Europe. This organization was composed entirely of civilians, and as with the *Maison,* Berthier as Chief of Staff had no operational control over them. As a result, all intelligence passed directly to Napoleon's cabinet. Berthier had to wait until it was passed to him. This aspect, among others, made Berthier's job of assisting the commander-in-chief all the more difficult.

Another aspect of Napoleon's command system was the revolutionary idea of corps and division commanders having their own organized staffs. Division staffs had a fixed number of personnel and the corps had 16 to 24 personnel assigned. Each staff was organized into definite sections. They were considered semipermanent because they were assigned to the commander, not to the organization.[16] When the commander left the organization, so did his staff. Another shortfall of this system was that there was no training for staff officers. Officers learned on the job. Commanders selected officers for service as there was no formal selection process.

Napoleon organized a system of standardized reports, reporting periods and formats, and information requirements[17] for his subordinate commanders. Napoleon also established what we now know as Commander's Critical Information Requirements (CCIR). In addition to reports, Napoleon perfected the system of the "directed telescope." Napoleon selected senior officers to serve as adjutant generals and report on "anything that might interest me." Junior adjutants generals were also selected, although their latitude was severely limited. This system of the directed telescope allowed Napoleon to bypass multiple command layers and access critical information in a more timely manner.

Napoleon's corps and division division commanders were given the means to concentrate rapidly at a decisive point on the ground. That point was normally determined by the emperor himself. Although he had a staff to assist him, it was often reduced to relaying orders and instructions. Napoleon's reluctance to delegate responsiblity hampered whatever initiative these men might have had. Napoleon would on occasion blame his subordinates, but he failed to develop the staff to the point where they could be of great assistance to him.

The French Army under Napoleon was very successful on the battlefields of Europe. Much of the credit must go to the

Emperor himself. Napoleon took what was given to him and added a superior organization and doctrine to create the Grand Armee. Napoleon's command and control system consisted of a rather large and cumbersome Imperial Headquarters superimposed over an existing corps and division system. Each element had specific responsibilities. The Imperial Headquarters not only administered an army in the field, but conducted the affairs of a state and empire at war. Subordinates were given limited authority and were not used to their full potential.

This rigid centralization of power was both a strength and a weakness for not only the staff but the French Empire itself. The whole organization became too complex and unwieldly. It never reached its potential. The noted historian David G. Chandler summed it up this way:[18]

> All in all French staff work comprised a weak link in the French military machine, and no small part of Napoleon's cataclysm can be laid at its door.

Prussian Staff Development

The Prussian defeat at Jena was a wakeup call for the descendants of Frederick the Great. Jena demonstrated just how far the Prussian Army had fallen behind her neighbors to the west. This lesson was not lost on the rest of the European powers, as all armies of consequence underwent a period of reforms in the wake of Napoleon's spectacular victories at Jena and Austerlitz. One action taken by the Prussians was the creation of the Prussian General Staff which had as its origins, the quartermaster staff of Frederick the Great. Initially, its functions were primarily surveying and laying out camps. Ultimately, the quartermaster became responsible for fortifications and reconnaissance.[19]

The Prussian staff actually began a reorganization program under Colonel von Massenbach (1802-1803) before Jena. Initially, the staff was divided into two sections, the "basic" (intelligence) and "current" (the study of war, drafting regulations and contingency planning) sections.[20] The policy of rotating officers between staff assignments and the line was established at that time and it is still practiced in the Bundeswehr today. The Prussian staff was further divided into three departments, one for each potential theater of war - western, central, and eastern theaters. These reforms were continued under General Gerhard Scharnhorst, who followed Massenbach in 1806 after Jena (Massenbach was held responsible for the results of that affair). Under Scharnhorst, major subordinate formations were provided with regular staffs under the direction of a chief of staff. This was the foundation for what became known as Truppengeneralstab or General Staff with Troops. These formations had four staff officers at each corps and one at brigade level. When a divisional system was established in the 1830's, it also received a complement of staff officers headed by a chief of staff.

The Prussian General Staff remained essentially unchanged for the next fifty years. Individual departments were expanded to accept new functions such as mobilization and deployment. Because these issues became so vital to Prussian military planning and execution, railways came under the direct control of the General Staff by 1872.[21]

The Prussian army was the first to offer formal training for its officer corps. The Kreigsakademie became a permanent institution in 1810. Originally founded by Frederick the Great to train his officers for war, it, like many of his other initiatives, fell to disuse in the years following his death. The functions of the general staff during peace were formalized during this period.[22]

The idea of keeping the staff small originated during this time as well. Even though the Prussian Army had three army headquarters, nine corps headquarters and eighteen division headquarters, the entire *Truppengeneralstab* numbered only sixty-six men. The entire General staff numbered eighty-seven men. That is in stark contrast to a World War II US Army corps with sixty-nine staff officers.[23]

A small Prussian General Staff provided stability and allowed officers to become familiar with each other. This, in turn, reduced the amount of information that needed to flow between headquarters and enabled commanders to quickly transmit their intent to subordinates. Plans were written with flexibility to allow subordinates freedom of action while acting within the commander's intent. Realizing that war seldom goes according to plan, tactical control was relinquished to subordinates, something Napoleon and his predecessors never did. The Prussian General Staff system was designed to allow tactical commanders maximum flexibilty within the strategic design of those pulling the strings from Berlin.

The Prussians learned from their defeats. Perhaps it is true that the vanquished are more willing or able to learn than is the victor. From the early days of Scharnhorst and Moltke, the Prussian (later German) Army overcame the disadvantages of its position and small population to build a machine that culminated in the impressive war machine of the Wehrmacht of World War II.

The legacy of the Prussian general staff is that it was the first permanent staff institution to exist during both war and peace. Responsibilities were clearly delineated for each staff officer and subordinate organizations were given their own independent staffs, putting the onus on subordinates for planning and execution. Additionally, a permanent education and training system was established to ensure that commanders and their small staffs were capable of executing assigned missions. The Prussian general staff system has influenced many armies over the years and has been the model for staffs around the world. It also influenced the American staff system.

The Evolution of the US Army Staff

General Washington quickly learned how difficult it was to act as both the commander and staff for the fledgling Continental Army. He also found it difficult to ask for additional personnel to do "staff work." Ultimately, he did form a staff to help in administrative matters. It was left to Major General Frederich von Steuben, the first Inspector General of the Continental Army, to introduce the staff practices of Frederick the Great to Washington's Army. Von Steuben also helped to train the army. When von Steuben was not conducting training or teaching, he served as a staff officer, providing staff estimates to the commander.[24] One biographer described him as the chief of staff and the assistant chiefs of staff for personnel, intelligence, operations and supply.[25] Von Steuben was a tremendous asset for Washington in his fight with the British.

The War of 1812 saw little change in the staff practices of the United States. A typical regimental staff consisted of an adjutant, a quartermaster and a paymaster. A surgeon completed the staff of the regiment. The staff was not very efficient because of a lack of experience and training. The War Department did, however publish The General Regulations for the United States Army in 1821 that prescribed procedures for administration and organization that was lacking from previous wars.[26]

The war with Mexico revealed that staff practices previously prescribed had lapsed. Commanders lacked an education in the administration and command of large units. Eventually, Winfield Scott assembled several West Point graduates to act as a staff for his Army of Invasion. This was the first American field army staff. Among the more prominent of these officers was Robert E. Lee who served as a staff engineer. Scott called these West Point graduates his "little cabinet."[27] But beyond the development of a field army staff, little else had changed in the way the American army practiced staff work. There seemed to be little if any awareness of developments made in the Prussian or other European systems.

The American Civil War exposed the conceptual weakness of the American staff system.[28] The American armies of both the North and South began the war with a staff organization. What was missing was staff doctrine that would help senior commanders (army to division) handle the complex work of caring for and moving thousands of men about the battlefields of the Civil War. Commanders spent an inordinate amount of time worrying about things that should have been relegated to a staff officer.[29] Major General Irwin McDowell personally reconnoitered roads as his army marched to Bull Run and McClellan helped sight artillery pieces prior to the battle at Antietam. Intelligence was also a problem for McClellan, and he hired the Pinkerton detective agency[30] to gather intelligence. This failed because they were unable to address military issues properly. The situation did not improve until an officer was given specific staff responsibility for intelligence. Meade lacked a trained staff that could help prepare and disseminate the orders required to move an army and capitalize on the opportunity that presented itself after Gettysburg.[31] At the lower echelons, regiments and brigades retained the staff structure that was introduced in the War of 1812.

McClellan summarized his difficulties in his memoirs:

> One of the greatest defects of our military system is the lack of a thoroughly instructed staff corps, from which should be furnished chiefs of staff for armies, army corps, and divisions, adjutants general, and aide-de-camp and recruiting officers. Perhaps the greatest difficulty that I encountered in the work of creating the Army of the Potomac arose from the scarcity of thoroughly instructed staff officers, and I must frankly state that every day I myself felt the disadvantages under which I personally labored from the want of that thorough theoretical and practical education received by the officers of the German General Staff.[32]

Staff work did eventually improve and helped to ease the commander's burden. But the lack of further conflict after the Civil War and the general isolationist sentiment in the country meant that no further development would occur for ninety years. The military staff system first introduced during the War of 1812 remained virtually unchanged until the turn of the century.

The outbreak of the war with Spain once again exposed the weaknesses of the Army's staff doctrine. The difficulties that the Army experienced in conducting its pacification mission and in administrating the territories after the war with Spain led directly to the reforms instituted by Secretary of War, Elihu Root. The Root reforms were meant to correct the logistical and operational problems that the Army experienced during the war. Legislation passed by Congress in 1903 created the modern US Army General Staff.[33] The War Department's General Staff was now responsible for the preparation of war plans for the national defense and mobilization of troops. The Chief of Staff (formally the Commanding General of the Army) was given supervision of all Army forces and the General Staff. In 1901, War Department General Order 155 established the education system which was to provide Army officers trained in the higher art of war.[34] The Infantry and Cavalry School at Fort Leavenworth became the General Service and Staff College. For the first time American Army officers had a school to teach them staff practices and doctrine.

After the American Expeditionary Force arrived in France in 1917, Pershing found it necessary to supplement the training that officers received in the United States. Pershing established schools for both staff and line officers of the A.E.F. A General Staff School was established at Langres under Major General James McAndrew. Once again, European influence played a large part in the way staffs were organized. The concept of a Chief of Staff was borrowed from the French and the designation of staff sections as "G" staff was strictly British. The 1903 law that incorporated Secretary Root's reforms listed general staff functions as they were enumerated in Schellendorf's Duties of the General Staff[35]. An A.E.F. order dated February 16, 1918 forms the basis for today's staff doctrine. It organized the staff as follows:

G1 - Administrative; personnel replacements, types of equipment, billeting, military policy and morale

G2 - Responsible for all intelligence functions.

G3 - Responsible for operations to include preparation of strategic studies, plans and employment

G4 - Supply; coordinates supply services, construction, and transportation

G5 - responsible for the general direction, instruction and training of the army

Additional technical and administrative officers were assigned and they formed the basis for a special staff group. The concept of organizing the staff into four sections under a Chief of Staff was borrowed from the French. A fifth section was organized at Langres to help oversee the training of the A.E.F.

Although American participation in combat operations during World War I was brief, the experience gained in staff operations was tremendous. The quality of American staff work became comparable to that of the French and British by the end of the war.[36] Staff work from the A.E.F. down to division level contributed to the success of the attack on the St. Michel salient and the move to the Meuse-Argonne. The army staff system had borrowed heavily from the Europeans to get to this point.

The US Army emerged from the war as a first class military power. The Army had the best of the European armies in the way of staff practices, structure and organization. The staff had the basic features of the French staff system in the tradition of Berthier, Jomini, and Thiebault. From the French came the concept of a Chief of Staff and clearly delineated staff functions. The army system could also claim ties to the intellectual attributes and the basic concepts of the Prussian staff system. The idea of professional education for staff officers came from the Prussians. In that regard, the Army continued the legacy of von Steuben and the Continental Army.

For the first time, the Army possessed the necessary features contained in a modern staff system. It had a school system that was designed to prepare an officer for staff duty. The staff system allowed for delegation of authority and provided supervision and a focus of effort.[37] The staff system that emerged from World War I is essentially the same system that the US Army has today. The G5 on the A.E.F. staff is now a civil affairs officer at the corps and division level. The number of personnel per staff section has grown since World War I, but the functions of each section are virtually the same.[38]

Doctrinal Review

> A good staff has the advantage of being more lasting than the genius of a single man.
>
> General Antoine Henri Jomini [39]

Military doctrine is developed primarily from a theory of war. It is the expression of how an army intends to fight its next war. Ultimately, doctrine is based on the actual experiences of war and the theoretical concepts of what future war might look like. Once doctrine is put in written form, it becomes the basis for training and organizing an army, implementing force structure, and the actual equipping of the units assigned. Additionally, most doctrine identifies principles that will help educate the soldier in its application. It describes how to integrate tactics with equipment and serves as a guide to thinking for the soldier.

Field Manual 101-5, Command and Control for Commanders and Staff, is the army manual for staff doctrine in support of AirLand Battle. This doctrinal manual fixes responsibility and establishes standards for commanders and staff officers alike.

It is necessary to understand current staff doctrine in order to determine if changes are warranted. Doctrine will be the standard by which staff performance will be measured.

The commander is responsible for all that his command does. Since the battlefield has become a large and complex place, it is impossible for the commander to manage it without help. Therefore, a command and control system has been established to help the commander to direct, command, and control forces in the execution of their assigned missions. The commander uses the system to command and control (C^2) all organic, assigned, or attached forces and for the integration of other army elements and the elements of other services. The C^2 system consists of three components:

> Command and control organization - is the organization of the headquarters for operations; includes the staff that helps the commander to accomplish the mission
>
> Command and control process - is the decision-making process and procedures used by the commander to accomplish the mission
>
> Command and control facilities - include command posts and supporting automation and communications systems[40]

The staff assists the commander in decision-making by acquiring, analyzing, and coordinating information for the commander. The staff presents only essential information along with a recommendation to the commander for a decision.

Army staffs are organized at all levels in three interrelated areas: the mission, broad fields of interests, and regulations and laws. Staff operations usually include the following seven broad fields of interest:

Personnel
Intelligence
Operations and training
Logistics
Plans
Signal operations
Civil-military operations

The relative importance of these functions will vary with the mission, the level of command, and the battlefield itself. When resource management is a major consideration, an eighth field of interest may be included in the staff: that of comptroller.

FM 101-5 prescribes staff principles that determine the organization of the staff. Authorization documents detail the size and composition of staffs at every level of command. Some considerations for developing staff structure include:

The mission
Size and diversity of responsiblities
Personnel available, qualifications, and performance
Requirements imposed by higher headquarters

The FM 101-5 model for all staff structure includes a chief of staff or executive officer and three staff groups — coordinating, special, and personal. The number of staff officers will vary according to command level and location. Coordinating staff officers are responsible for one or more fields of interest and they assist the commander by coordinating and supervising the execution of the command's plans, operations, and activities. Coordinating staff officers are not responsible for those functional areas that the commander has reserved for himself or are reserved to other staff officers by law. An example of a coordinating staff officer is the traditional G1, the staff officer responsible for personnel and administration.

The chief of staff assigns specific responsibilities to each staff officer and assigns primary responsibility to a single coordinating officer. They are responsible for acquiring information and analyzing its implications for the command.

Special staff officers also assist the commander and his personal staff in professional and technical areas. The actual number of special staff officers and their duties will vary at each level of command. Special staff officers are assigned to:

1) Perform the basic functions of a staff officer
2) Assist coordinating staff officers in preparing orders, plans and reports
3) Plan and supervise training in their respective staff sections, provide staff supervision and input to their respective commanders on their level of training
4) Consult and coordinate with their own staff officers

Liaison officers are special staff officers who represent their commanders at other headquarters. The liaison officer helps the commander synchronize his command with others on the battlefield. Through personal contact, liaison officers help coordinate and exchange essential information with other units. The commander can also direct officers and noncommissioned officers to conduct liaison duties for specific times and missions. The liaison officer can help the commander bypass layers of command to obtain information on topics of importance to him. Liaison can also be accomplished by establishing and maintaining communications with other commands and by manning coordination points whenever required. Liaison must be reciprocal (mutual exchange of liaison officers) when a force is placed under the command and control of a headquarters of a different nationality. Liaison officers and noncommissioned officers must be familiar with the operations of their unit. They should possess in-depth knowledge of the unit's strength's and weaknesses as well as the commander's intent.[41] FM 101-5 prescribes the minimal initial information that liaison officers provide to the host unit.

Army regulations and laws establish a special relationship between certain staff officers and the commander. For example, Army regulations require the inspector general and the staff judge advocate to be members of the commander's personal staff.

Personal staff officers work directly for the commander. They assist him instead of working through the chief of staff or the executive officer. Personal staff members are personnel who meet one of the following criteria:

Designated by TOE or TDA (e.g. aide-de-camp)
The commander wishes to supervise personally
Designated by law or regulation (IG, SJA, CSM)

The integration of all staff functions will assist the commander in synchronizing combat power - at the right place, at the right time - during the course of the battle[42].

With an understanding of doctrine and the requirements it places on a staff, an evaluation of evidence for change can begin. Evidence for change must show that the doctrine is either no longer valid or in need of modification. Potential changes must show that current organizations no longer support doctrine or that new or additional conditions necessitate a change.

Analysis

The United States Army validates its doctrine in peacetime through training. As training is conducted, doctrinal precepts are challenged on a recurring basis. When deficiencies are noted, they are recorded for further analysis and action. Comments on doctrine and its application can be found in after action reviews and when found to be valid are captured in various publications that are produced by the Center for Army Lessons Learned at Fort Leavenworth, Kansas.

One of the premier training events for US Army units is a rotation at the National Training Center (NTC). The mission of the NTC is to provide tough and realistic training for Army and Air Force units in mid-to-high intensity conflict in accordance with AirLand Battle doctrine. All CTCs provide lessons learned from individual NTC rotations.[43]. Reviewing lessons learned from the NTC can provide evidence for changing staff doctrine, procedures or structure. A review of CALL's lessons learned data base revealed comments in four specific areas: planning, personnel, training, and liaison officers.

Comments regarding planning are concentrated in the area of executing staff doctrine and procedures. Specifically, the coordination between staff officers during the planning cycle needs improvement. The integration of all staff officers is necessary during all phases (planning, preparation of orders and supervising the execution of orders) to ensure a more complete product. Combat service support staff officers are routinely absent or ignored during the planning cycle. Plans are published without their input and are in danger of being unsupportable. Maintenance priorities and the health of the command are not considered because these officers are absent and do not provide input. Supporting units, such as aviation, are not represented during planning or wargaming and thus synchronization becomes a problem. This is particularly true with any plan that is executed without their input.[44] In short, units conducting training at the NTC need to improve their execution of staff doctrine during the planning cycle.

CALL comments concerning staff personnel center around three key areas: personnel turnover, the deletion of personnel from the TOE, and the proper utilization of staff personnel.

Personnel turnover has an adverse impact on the performance of the staff. It is particularly difficult to build cohesion in a staff when a significant amount of turnover is present. All too often a unit trains its staff for several months prior to deployment only to see that team break apart at the conclusion of a major exercise. If a unit cannot keep a staff together for any significant amount of time, then an aggressive training program must be installed to mitigate the effects of staff turbulence.

A second personnel problem that units are experiencing at the NTC is the improper utilization of personnel during rotations, specifically noncommissioned officers. In practice, NCO's are habitually relegated to "housekeeping" duties in the field. Handling radios and providing security are but a few tasks that the NCO does at the NTC. In theory, however, NCOs are assigned to the various staff sections to help in the planning and execution of orders. NCOs, when properly trained, are fully capable of doing more. Another comment about noncommissioned officers is that many have not attended the Operations and Intelligence Course (O&I) taught in the Sergeants Major Academy at Fort Bliss, Texas. Graduates of the course contribute greatly to success at the NTC. The final personnel comment is that the brigade S4 section with four personnel authorized and assigned cannot man both the brigade TOC and ALOC[45] in a continuous operations environment.

Another area of concern at the NTC lies in the area of staff training. Staffs have trouble synchronizing the battlefield for a variety of reasons. Units are attempting to create the perfect plan. While staffs continue to prepare the best possible solution, they are constantly violating the "one third - two thirds"[46] rule. Staffs must strike a balance between the perfect plan and proper troop leading procedures. Subordinates are not getting enough time to develop their plans and to conduct rehearsals to ensure synchronization at their level. When rehearsals are being conducted, not all supporting elements are present. The synchronization effort suffers when key support players, such as the air battle captain, are missing from planning sessions and rehearsals. Commanders and staff must ensure that all players are present for key events and that subordinates are given sufficient time to conduct troop leading procedures of their own.

Establishing liaison between units is the fourth major problem area for rotational units. The doctrine establishes why units liaison and to whom liaison officers are dispatched. Yet this problem is mentioned on a recurring basis. Liaison from supporting to supported units is mentioned more than the other doctrinal relationships. Liasion officers are especially critical when units are working outside of the habitual relationships established during training.[47]

While the emphasis at the NTC is on battalions and brigades in the field, the Battle Command Training Program (BCTP) focuses on the commander and his staff. Commanders and staffs exercise without troops and utilize computer simulation to add realism to training. Observations from BCTP Warfighter Exercises (WFX) high-light the command and control process. CALL maintains a data base of BCTP WFX observation reports. These reports indicate how well brigade and division staffs perform in accordance with doctrine. Information management, manning and the utilization of noncommissioned officers constitute the bulk of the comments from WFX.

Information management is one of the more important functions that a staff performs. Information management, to include gathering, processing, analyzing and disseminating information, is critical to the military decision-making process. Information management begins with the maintenance of a staff journal. Staffs typically have trouble capturing all the information that comes into the command post. Staffs must find a way to expeditiously handle incoming messages and catalog those things that the commander has identified as his Commander's Critical

Information Requirements (CCIR). The CCIR must be understood by all so that it can be made readily available to the commander. Displaying current information properly is important to provide a quick and succinct update to both the commander and staff. Therefore, a system must be devised to ensure that critical information is not lost. Information management is a primary staff function and all efforts must be made to ensure that it is done properly.[48]

WFXs stress staffs throughout the duration of the CPX. Proper manning within authorizations is critical if staffs are to perform properly. Synchronization is even more difficult when staff members have been in position for short periods of time. Filler personnel are needed to conduct continuous operations. Teamwork, so critical to success, is lacking as these personnel assimilate themselves into new organizations. This is particularly true when creating ad hoc units for unique missions. For example, designating the division artillery headquarters as the division's counterfire headquarters requires augmentation. Help is needed to process targeting information for a successful counterfire program. Proper manning of staffs is important to create an effective staff. Emphasis on putting a team together and keeping it together is critical to serving the commander effectively.[49]

Proper utilization of personnel is the last major area receiving comments on WFX observation reports. Comments about the use of NCOs and their potential are identical to the ones found during the review of NTC lessons learned. The proper utilization of NCOs may be a problem at all levels of command. Once again, the O & I course is mentioned as being an important training milestone for staff NCOs. Without it, they cannot perform to their maximum potential. With limited manpower, all staff personnel need to be involved in the staff process.[50]

BCTP Warfighter exercises do not reveal a need to modify staffs or change structure or doctrine. The WFXs did reveal the need for staffs at brigade and division to improve basic staff skills. Information management is a critical area for staff improvement. Staffs must establish procedures to improve their ability to handle the volume of information available on the modern battlefield. Proper manning of staffs to appropriate levels and an added emphasis on longevity will help staffs build cohesion and improve effectiveness. Teamwork is essential if a staff is to synchronize the battlefield for the commander. Finally, the proper utilization of all personnel, particularly NCOs, is important if a staff is to perform effectively. Graduates of the Operations and Intelligence course are better able to perform staff work for the commander.

Operation URGENT FURY

On October 25, 1983 U.S. military forces conducted a forced-entry operation onto the eastern Caribbean island of Grenada. The basic objective of U.S. intervention was twofold. The first was to protect U.S. citizens who found themselves in a deteriorating situation following a successful coup against Prime Minister Maurice Bishop. The second objective was to prevent the the transformation of Grenada into a Marxist state by the Cuban backed coup leaders.

Contingency planning for what was supposed to be a non-combatant evacuation operation began on 19 October 1983. It was precipitated by the assassination of Bishop and the subsequent imposition of a twenty-four hour, shoot-on-sight curfew.[51]

The commander of the U.S. Atlantic Command, Admiral Wesley McDonald was given overall responsibility for planning and execution. He designated Vice Admiral Joseph Metcalf III (commander of U.S. 2d Fleet) as the commander of Joint Task Force 120 (CJTF120). It fell to Metcalf to evacuate 600 medical students from Grenada.[52]

The plan, developed by LANTCOM, was originally to be an all navy show. Ground forces would be limited to a marine amphibious unit (MAU) - the 22d MAU (TF 124). The MAU would have a medium helicopter squadron ashore in direct support. The remainder of Amphibious Squadron Four would remain off the coast to support the operation.

The mission changed even as LANTCOM and JTF 120 planners continued to refine the plan. On 22 October 1983, the Organization of Eastern Caribbean States (OECS) requested that the mission of U.S. forces be expanded to include the restoration of order after the initial objectives were seized. Additionally, the OECS wanted the operation to commence no later than daybreak, 25 October. Furthermore, as the JCS completed a reappraisal of the situation, it was determined that JTF 120 had insufficient forces to accomplish the mission. The JCS directed that army units be given the objective of Point Salines in the south. TF

124 would have the objectives in the north - Pearls and Grenville. Army forces had less than three days to prepare for this contingency.

Army forces earmarked for participation in Operation Urgent Fury were the 1st and 2d Battalions (Ranger), 75th Infantry (TF 123) and the Division Ready Force 1 (DRF-1), 82d Airborne Division (TF 121). The Rangers were to arrive at Point Salines airfield and move to rescue the students at the True Blue campus. The DRF-1 would follow in Phase Two. It was to land, relieve the Rangers, and conduct peacekeeping operations in concert with the follow-on Caribbean Peacekeeping Force (CPF).

Staff planning was adversely affected by more than just a compressed planning cycle. An obsession with operational security (OPSEC) meant that key personnel were left out of important coordination sessions. Issues such as communications and fire support were not addressed and would not be resolved until well into the operation. Representatives from the politically important Caribbean Peacekeeping Force were not represented at the coordination meetings that were conducted.

Other politically sensitive issues were never fully addressed by LANTCOM planners. Those issues were prisoners of war, diplomatic personnel from the Soviet bloc, refugees, public affairs, and civil affairs.[53] The lack of planning at the operational level concerning these issues meant that tactical level commanders would have to plan for and execute operations to handle these problems.

Communications also hindered operations. Problems arose throughout as a result of a lack of prior planning and coordination. Inadequate in-flight communications meant that TF 123 did not know the status of Point Salines airfield during their approach. The Rangers aboard those aircraft did not know the tactical situation on the ground as they approached their target. A proper staff review of the communications plan might have prevented this from occurring. Tactical surprise was lost when CJTF 120 learned that the Rangers would be late to their target. Metcalf could not stop the marine air assault that had launched in what was supposed to be a simultaneous attack. The PRA defenders were thus alerted and the readiness posture on the island increased.

There were other communications problems. After the commander of TF 121 arrived on Grenada, he found that he could not talk to his superior even though he could see his ship off the coast. Because of poor planning commanders had to solve the problems of link-up, communications, and command of the airhead, under fire. TFs 121 and 123 did not exchange liaison officers even though they were in close proximity to each other.[54] This problem was extended to the CPF. Because the CPF was excluded from planning sessions, they were nearly fired upon as they arrived on Grenada.[55]

Even though commanders were cautious, fratricide still occurred. On D+2, an ANGLICO team, without a means to contact army units in the area, directed an A-7 strike against a suspected sniper location. The attack hit the command post of the 2d Brigade, 82d Division. Seventeen paratroopers were wounded and one would subsequently die in what was a totally preventable accident.[56] It was this ANGLICO team that days earlier missed its scheduled deployment with the 82d Airborne Division. Once again, proper crisis planning may have prevented a tragedy.

The Grenada operation demonstrated the importance of staff planning. Because the planning cycle was compressed, important coordination did not take place. As a result, communication between units within the JTF were ineffective. Fire support was generally unavailable and when it was delivered, it hit friendly forces. Proper liaison between units would have prevented this tragedy. *URGENT FURY* demonstrated what can happen when doctrine is not followed. That it was considered a success must be attributed to the soldiers who executed a poor plan to the best of their ability.

Operation JUST CAUSE

During the early morning hours of December 20, 1989 selected US military units conducted a forced-entry operation into Panama in conjunction with forward deployed forces there. It was the largest night operation since World War II. The objectives of the operation were to protect American lives; protect American interests and rights under the Panama Canal Treaty; restore Panamanian democracy; and apprehend General Manuel Noriega.[57]

Plans for the use of US military force in Panama dated back to June 1988 when tensions between the United States and the commander of the Panamanian Defense Forces increased.[58] As it became evident that the situation would not improve, additional forces were sent to help protect US interests in Panama. The first increment of 1,300 troops was sent in April 1988 to protect US bases. After Noriega refused to accept a provisional plan that would have sent him into exile, 1,300 additional troops were sent in June 1988. When Noriega refused to accept the results of the May 1989 presidential election, an additional 1,900 troops were sent to Panama to augment the 10,000 already there.[59] Thus, unwittingly Noriega supplied the pretext to stage the additional troops that were required to depose him.

Upon arriving in Panama these units conducted rehearsals in the areas where they would conduct combat operations during Operation *JUST CAUSE*. The 7th Infantry Division (Fort Ord, CA.) rotated units to Panama every ninety days in order to familiarize them with their *JUST CAUSE* objectives. Units that could not train in Panama rehearsed their missions at home station using mockups of their actual objectives.[60]

The rehearsals contributed directly to the overall success of Operation *JUST CAUSE*. This, in combination with an initial night operation has been credited with keeping casualties to a minimum. The US had 23 KIAs and 324 WIAs. The PDF had 314 KIAs and 220 WIAs. The US acknowledged that 202 civilians had been killed as a result of Operation JUST CAUSE.[61]

While the operation was an overwhelming success, there are several lessons that the Army must take away from *JUST CAUSE*. Issues that have been identified in open sources point to two key areas: information management and post-conflict activities.

During *JUST CAUSE*, units had to rely on ad hoc solutions to doctrinal problems. Communications nodes had became saturated due to the tremendous volume of information available to commanders. One solution that seemed to work was to use liaison officers to facilitate communications. The problem is that doctrine does not provide for a twenty-four hour capability for liaison officers. The typical two man liaison team is insufficient to conduct continuous operations.[62] Current staff doctrine does not provide for this capability.

Post-conflict activities, especially civil-military operations, have taken on increased importance recently. Yet doctrine has failed to adjust. As combat operations concluded, the emphasis shifted to civil-military operations. Tactical units were tasked to reestablish law and order and dedicate resources to such nontraditional tasks as food distribution and medical treatment for the local civilian population. Law enforcement, garbage collection and traffic control were other tasks that required American assistance.[63] Units had spent little, if any, time rehearsing their roles in civil-military operations.[64] These functions were not a part of the unit's mission essential task list. These units were without the benefit of civil affairs officers as well. Doctrine does not provide for a civil affairs officer at the brigade or battalion level, the level of execution in Panama. Civil affairs officers need to be assigned at this level to ensure liaison with the civilian government and people.[65] Doctrine needs adjustment.

Operation DESERT SHIELD/DESERT STORM

On February 24, 1991 U.S forces, in conjunction with a coalition of thirty-five other nations launched a ground attack into Iraq and Kuwait[66]. The attack followed a thirty-eight day air campaign that fai.ed to induce an Iraqi withdrawl from Kuwait. The primary objectives of the campaigns were to remove Iraqi forces from Kuwait and to restore the legitimate government.

As war is the one true test of doctrine, ***DESERT STORM*** is the latest and perhaps best test of its validity. ***DESERT STORM*** involved a wider variety of forces than either ***URGENT FURY*** or ***JUST CAUSE***. Those operations involved primarily light contingency forces, while ***DESERT STORM*** saw the deployment of five heavy divisions and two armored cavalry regiments from both CONUS and Europe.

One of the first lessons learned from the gulf war is the need for robust, continuous liaison. In addition to performing strategic reconnaissance and direct action missions, U.S. Army Special Forces teams performed the critical mission of liaison with the Pan-Arab forces. Few members of the coalition had ever deployed outside of their respective borders nor had they operated with foreign forces. Unique doctrine, equipment interoperability, and language differences combined to present challenges to all involved.

To meet the challenge, the Army had to resort to an ad hoc arrangement. Special forces teams, serving as liaison teams, reported locations, capabilities, intent of friendly unit commanders and current activities of friendly units. Special forces teams also called for close air support from U.S. air and ground assets.[67] Performing a liaison mission took special forces away from their strategic and or operational roles. There was no other alternative available.

Although conventional units have liaison officers at every level down to battalion, most would not have been able to accomplish this mission. Language alone would have impeded mission accomplishment. It is doubtful that those liaison teams were trained to operate with the various coalition members. If the U.S. intends to fight in future coalition arrangements, this issue must be addressed.

The 3rd Armored Division deployed to Southwest Asia in late December, 1990 to participate in Operation *DESERT STORM*. Although the division found that much of the doctrine was valid, its experiences highlighted some aspects that require adjustment.

One of the first problems that division planners recognized was that the maneuver brigades' rate of advance quickly outran command post displacements. To compensate, an ad hoc arrangement was used. The 3rd AD created a jump TAC and a jump MAIN.[68] The additional CPs allowed the division to "stretch" its C^2 to cover the expansive battlefield. The impact was an increase in required staff officers.

In addition to creating additional command posts within the division area, personnel augmentation became necessary to properly perform selected missions. The 3rd AD beefed up its staff by some 15%. These personnel were used in a variety of ways.

The division G2 used some as liaison officers with VII Corps to help facilitate communications with Corps G2. As the 3rd AD was working outside its habitual C^2 arrangement (it is a V Corps unit) liasion was necessary to ensure a smooth information flow. The G3 needed augmentation to man the extra CPs previously mentioned. The G4 needed augmentation to help with local purchases and requisitions. The division found itself deploying from Germany without many items necessary for desert warfare. The G4's staff was not manned sufficiently to handle the increased activity. The G5 and division surgeon also needed augmentation. The increased requirement to handle refugees and assist with civilians with such problems as sanitation and health care was not within the capability of their respective staffs. Even the G1 needed personnel to help with increased administrative requirements.[69] In every instance, doctrine was unable to address the unique situation that the division found in SWA.

The 3rd AD made extensive use of liaison officers in SWA. LNOs were sent to each of the other divisions within VII Corps. The division also found it necessary to send LNOs to all three VII corps command posts. Again, the division needed more liaison officers to ensure information flow within its new corps structure. Doctrine did not allow for sufficient personnel to meet the requirements of the division. Hence, an ad hoc solution was used to solve the problem. The extensive use of augmentees by the 3 AD is a valid reason to take a hard look at staffs. Despite new technology, more people were needed to make it work.

CONCLUSIONS

Michael Howard's challenge to military science to get the doctrine as correct as possible is a difficult one. When war is not present, a best guess based on training and historical reflection is one of the few viable options available. When doctrine is tested in combat, one must question whether that experience is indicative of future wars.

Recent training experiences have indicated that there are problems with doctrine. Many of the lessons learned during training were seen again during three recent conflicts. History is replete with examples of armies failing to adopt to the changing times. Napoleon did not recognize that the other European powers had changed as he continued to seek another Austerlitz or Jena late in his career. History has given us examples of those who were not afraid to change. Scharnhorst and the rest of the Prussian reformers changed after Jena, establishing among other things a general staff. The adoption of Hutier tactics in World War I is an example of an army recognizing that a change had to made if victory was to be achieved.

The number of liaison officers assigned to tactical units is insufficient. As the battlefield becomes even more uncertain, the commander's search for certainty will grow. This study has demonstrated the value of liaison officers, particularly when units find themselves working with unfamiliar organizations. Because the U.S. can expect to fight in future "hybrid coalitions,"[70] the liaison requirement that the Army needed in the Gulf will be repeated. Doctrine must be adjusted to reflect the new reality. Units need more liaison capability. A renewed emphasis on training is needed to ensure that LNOs can meet the challenge.

When a new function is identified, or a minor function suddenly gains in importance, a change must take place. This is the case with both civil-military operations and security. Civil-military operations have grown in importance, as recent events have demonstrated. *JUST CAUSE* and *PROVIDE COMFORT* were excellent examples of military forces in a civil-military role. Despite their importance, units executing these missions were untrained in the required tasks. Staffs did not have a civil affairs officer available for planning or execution. It is time to incorporate CMO into training and either put CA officers at lower echelons or designate a staff officer for specialized training.

Security operations must be addressed as well. Units augmenting headquarters with personnel to perform command post security is an indicator that the field finds doctrine to be insufficient. The German Army recognizes this and provides a platoon for command post security.[71] The US Army must make an adjustment to provide better security for its command posts.

Training of staffs needs renewed emphasis. Where doctrine is sound, the problem appears to be one of proficiency. Training events such as NTC and WFX indicate that a greater emphasis in staff training is in order. Staffs have difficulty with information management and planning. The issue of proficiency is related to staff turbulence and the underutilization of our noncommissioned officers. Collective training for staffs will help mitigate the effects of turnover. Individual training and proper utilization of NCOs can have a positive effect on staffs.

Doctrine states that supporting personnel must be included in planning sessions, yet there have numerous examples were the doctrine was not followed. Improper coordination can have tragic results. The ANGLICO in Grenada missing a crucial meeting resulted in needlessly injured soldiers. Not having civil affairs personnel on hand slowed the recovery effort in Panama. Staffs are better able to complete their assigned tasks when all required personnel are available.

Finally, ***DESERT STORM*** yields more lessons about staffs and doctrine and the need for change. The liaison mission in a coalition environment needs to studied. The 3rd AD's concept of a jump TAC and jump MAIN challenges the evolving concept of the standardized command post. It merits consideration in light of the Army's plan to reduce the size of command posts.

As the Army continues to downsize, it must maintain its focus on providing the commander with what he needs to command and control his unit. The staff is an integral part of that process. Careful consideration must be given to adopting the staff to the 1990s and beyond.

ENDNOTES

[1]Michael Howard, "Military Science in an Age of Peace", presented as the Chesney Memorial Gold Medal Lecture on 3 October 1973, 152.

[2]Martin L. Van Creveld, Command in War (Cambridge, Massachusetts: Harvard University Press, 1985), 29.

[3]Ibid.

[4]Ibid.

[5]Ibid, 34.

[6]Ibid, 35.

[7]Ibid, 37.

[8]Walter Goerlitz, History of the German General Staff, 1637-1945 Translated by Brian Battershaw (New York: Praeger, 1953), 17-19.

[9]Hew Strachan, European Armies and the Conduct of War (London, England: George Allen and Unwin, 1983), 35.

[10]Van Creveld, 60.

[11]Strachan, 41.

[12]Van Creveld, 61.

[13]Ibid, 65.

[14]Ibid, 72. For a detailed treatment of the Imperial Headquarters, see David G. Chandler's The Campaigns of Napoleon (New York: MacMillan, 1966) Chapter 33.

[15]Van Creveld, 71.

[16]Ibid, 73.

[17]Ibid, 74.

[18]David G. Chandler, The Campaigns of Napoleon (New York: MacMillan, 1966), 374.

[19]Ibid, 109.

[20]Ibid, 110.

[21]Strachan, 123.

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[22]Van Creveld, 111.

[23]Kent R. Greenfield, The U.S. Army in World War II: The Army Ground Forces-The Reorganization of Ground Combat Troops (Washington DC: Government Printing Office, 1947), 296.

[24]Department of Defense, Joint Staff Officer's Guide 1991 (Norfolk, Va.: Armed Forces Staff College, 1991), 1-6.

[25]James D. Hittle, The Military Staff: Its History and Development (Westport, Connecticut: Greenwood Press, 1961), 179.

[26]Russell F. Weigley, History of the United States Army (New York: MacMillan Publishing Company, 1967), 186.

[27]Ibid, 185.

[28]Joint Staff Officer's Guide, 1-6.

[29]Weigley, 241-242.

[30]Ibid.

[31]Joint Staff Officer's Guide, 1-6.

[32]Hittle, 189.

[33]Joint Staff Officer's Guide, 1-9.

[34]Hittle, 198.

[35]Ibid, 204.

[36]Weigley, 387-388.

[37]Hittle, 214.

[38]Daniel P. Bolger, Command and Control. Paper submitted for consideration for the 1990 MacArthur Military Leadership Writing Competition, Command and General Staff College, Fort Leavenworth, Kansas, 20 April 1990. Figures 1 and 2 found on pages 5 and 10 respectively reflect an increase in staff sizes, but not a change in staff structure. The structure that Pershing developed for the A.E.F. is in place today.

[39]Hittle, 1.

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[40]Field Manual 101-5 Staff Organizations and Operations (Washington DC: Headquarters, Department of the Army, 25 May 1984). 1-1, 1-2.

[41]Field Manual 71-101 Armor and Mechanized Division Operations: Tactics and Techniques (Coordinating Draft) (Washington DC: Headquarters, Department of the Army, 1991), 2-46

[42]Field Manual 101-5 (1984), 8-4.

[43] William J. Mullen, III and Horace G. Taylor, CALL Compendium: Heavy Forces (1988-1989) Volume I (Fort Leavenworth, Kansas: Center for Army Lessons Learned), i.

[44]Planning comments come from the *Center for Army Lessons Learned* computer data base containing observations from NTC rotations. Reference numbers 1274, 1759, 3511, 4240, 4318, 4633, 4634 and 4741.

[45]Personnel comments come from the *Center for Army Lessons Learned* computer data base containing observations from NTC rotations. Reference numbers 1278, 2173, 3497, 3788, 3846, 4343, 4353, 4585, 4539, 4619 and 4795.

[46]Training comments come from the *Center for Army Lessons Learned* computer data base containing observations from NTC rotations. Reference numbers 2422, 3399, 3396, 3942 and 4276. The one third-two thirds rule can be found on page 2-5, Student Text 100-9 Command Estimate Fort Leavenworth, Ks.: US Army Command and General Staff College, 1991. Although the text is not doctrine, it is widely used in the field. The "rule" is a guide for commanders to keep 1/3 of available time for his own planning and allow subordinates 2/3s of the available time prior to execution.

[47]Liaison officer comments come the *Center for Army Lessons Learned* computer data base containing observations from NTC rotations. Reference numbers 4340, 4341, 4382, 4397,4615, 4635, 4889, 5110 and 5414.

[48]Information management comments come from the *Center for Army Lessons Learned* computer data base containing observations from the following BCTP Warfighter Exercises: Rotations 88-02, 89-09, 90-07 and 90-08 are heavy division rotations and 89-10, is a heavy brigade rotation with a central Europe scenario.

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[49] Manning comments come from the *Center for Army Lessons Learned* computer data base containing observations from the following Warfighter Exercises: Reference rotations 89-03, a light division rotation; 89-08, a light division rotation; 90-01, a heavy brigade rotation; and 90-09, a heavy division rotation. All are central Europe scenarios except 89-03 which had a southwest Asia scenario.

[50] NCO utilization comments come from the *Center for Army Lessons Learned* computer data base containing observations from the following Warfighter Exercises: Reference rotations 88-02, a heavy division rotation; six comments from 89-03, a light division rotation; and 90-01, a heavy brigade rotation.

[51] Steven W. Senkovich, From Port Salines to Panama City: The Evolution of Command and Control in Contingency Operations. (Fort Leavenworth, KS.: U.S. Army Command and General Staff College, 7 June 1990), 10.

[52] Ibid, 11.

[53] Ibid, 16.

[54] Ibid, 24.

[55] Mark Adkin, Urgent Fury: The Battle for Grenada. (Lexington, Mass:Lexington Books, 1989), 219.

[56] Ibid, 286.

[57] Edward F. Dandar, "Civil Affairs Operations." Operation Just Cause: The U.S. Intervention in Panama. Eds. Bruce W. Watson and Peter G. Tsouras. (San Francisco: Westview Press, 1991), 217.

[58] Frank Colucci, "Rehearsals Reaps Rewards" Defence Helicopter World, June-July 1990, 18.

[59] Ibid.

[60] Ibid, 20.

[61] Dandar, 218.

[62] US Army. Center for Army Lessons Learned Bulletin Operation Just Cause Lessons Learned: Volume II Operations (90-9). (Fort Leavenworth, Kansas: Headquarters, Combined Arms Command, October 1990), II-19. Hereafter called CALL 90-9.

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[63]Ibid, II-23.

[64]Interview conducted with Major Brad Mason at Fort Leavenworth, 22 November 1991. Major Mason served with the 1/228 Aviation Battalion during Operation *Just Cause*.

[65]CALL 90-9 and Dandar, 129.

[66]"Forces Committed" Military Review, September 1991, 80-81.

[67]E. M. Flanagan, Jr. "Special Operations: Hostile Territory was their AO in Desert Storm" Army, September 1991, 16.

[68]Command and Control of 3d Armored Division: "The Spearhead Approach" - War with Iraq, 24-28 February 1991.

[69]John V. Scudder. Letter to the author, 1 October 1991.

[70]George H. W. Bush. National Security Strategy of the United States. Washington DC: White House, August 1991, 13.

[71]German Army. Table of Organization and Equipment for *Stab and Stabskompanie*, Division Number 303-1190, June 18,1985, 14.

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